

REMARKS

Claims 1, 2, 4-14, 16, and 17 are now pending in the application. Claims 11-14 and 16-17 stand rejected. No new matter has been presented. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

ENTRY OF AMENDMENT AFTER FINAL

Applicants respectfully thank the Examiner for entering the amendment submitted February 21, 2008 as indicated in the Advisory Action mailed March 5, 2008.

REMOVAL OF REJECTION UNDER 35 U.S.C. § 112

Applicants respectfully thank the Examiner for removing the §112 rejection of the claims as indicated in the Advisory Action mailed March 5, 2008.

REJECTION UNDER 35 U.S.C. § 103

Claims 11-14 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Seeliger et al. (U.S. Pat. No. 6,090,232) in view of Rashid et al. (U.S. Pat. No. 6,253,588). This rejection is respectfully traversed.

Applicants respectfully submit that Seeliger et al. discloses that the piece to be molded needs to be "semi-finished" and "must already have its final contour, since a further contouring by the foaming of the semi-finished molded product 7 into a component 1 no longer brings about any molding of this side 10." Seeliger at Column 3, lines 42-50. Seeliger further discloses a two-mold process (a mold to form the semi-finished molded product and a mold to form the final product), and the two-molds are

critical elements of the Seeliger invention. To the contrary, Applicants provide flat sheets and do not provide a piece “already hav[ing] its final contour” as taught by Seeliger. In this regard, the Examiner’s attention is directed to claim 11 which contains the limitation “superplastically forming said precursor structure after adhering said metal foam precursor layer.” Emphasis added. Applicants submit that Seeliger does not teach this limitation. Applicants foaming and forming is conducted in the tool forming cavity, and there are not separate molds for each of the foaming and forming steps.

Further, Applicants respectfully assert that there is no evidence or suggestion in Seeliger of a configuration which uses only a flat sheet. See, *Ex Parte Katoh et al, Appeal 20071460, Decided May 29, 2007*. To the contrary, the Seeliger et al. teachings are inapposite to Applicants’ claimed invention. Specifically, at Column 3, lines 41-59, Seeliger recites:

For this purpose, the semi-finished molded product 7 is placed in a foaming mold 9, and the foaming is effected in situ in the foaming mold 9. **One wall 12 of the foaming mold 9 supports a side 10 of the semi-finished molded product 7 essentially over its surface, so that this side 10 must already have its final contour, since a further contouring by the foaming of the semi-finished molded product 7 into a component 1 no longer brings about any molding of this side 10.**

(Emphasis added).

In light of the mandate of Seeliger for the two-mold process requiring that the semi-finished molded product has its final contour prior to foaming, Applicant respectfully asserts that the rejection is insufficient because the Office has not provided “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), cited in *KSR Int’l v. Teleflex Inc.*, 127 S.Ct. 1727, 82 USPQ2d 1385 (2007).

The assertion that Seeliger can be modified to use only flat sheets is not presented in light of a rational underpinning because Seeliger clearly discloses that the side 10 must already have its final contour to be accommodated in the foaming mold. Rather, the assertion that Seeliger can be modified to use only flat sheets is conclusory, and “rejections on obviousness grounds cannot be sustained by mere conclusory statements...” *Id.*

As such, Applicants submit that Seeliger et al. teaches away from Applicants' claimed invention as amended, and that the Office has not provided “articulated reasoning with some rational underpinning” to support the obviousness rejection. Therefore Applicants submit that one skilled in the art would not look to combine Seeliger et al. with Rashid et al. to form the claimed invention.

Applicants further maintain that the addition of Rashid et al., directed to quick plastic forming, does not provide the parameters lacking in Seeliger et al. to provide Applicants' specific foaming and shaping of the materials to form the composite structure.

The teachings of Rashid et al. are directed to a very particular set of materials having specific microstructures and preparation/heating parameters. Applicants assert that Rashid et al. had to provide the specific microstructures and preparation/heating parameters because other materials are not readily usable in the process detailed in Rashid et al. Applicants further assert that one skilled in the art would assume that using gas pressure to form the sheet would oppose the pressure used to foam the gas and actually restrict or prevent the foaming action by creation of the hydrostatic force. Accordingly, one skilled in the art would not have had reason to modify the teachings of Rashid et al.

Additionally, neither Rashid et al. nor Seeliger et al. provides direction or incentive to combine the teachings or to combine the teachings while eliminating the “must already have its final contour” mandate set by Seeliger et al. Applicants respectfully assert that an elimination of the Seeliger et al. mandate destroys the Seeliger et al. reference. Applicants further respectfully assert that to arrive at Applicants’ claimed invention as amended upon combining Rashid et al. and Seeliger et al. and selectively omitting the mandate set by Seeliger et al., is only achieved using hindsight.

As the combination of Seeliger et al. and Rashid et al. does not teach or suggest Applicants’ claimed invention as amended, and the application of hindsight is impermissible, the §103 rejection is improper. Reconsideration and removal of the claim objections are respectfully requested.

Claim 17 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Seeliger et al. in view of Baumeister (U.S. Patent No. 5,151,246) and further in view of Rashid et al. This rejection is respectfully traversed.

The addition of Baumeister does not remedy the shortcomings of the combination of Seeliger et al. and Rashid et al. Baumeister merely details the materials and does not provide further guidance regarding taking a flat metal sheet, foaming precursors attached to the flat metal sheet layer, and shaping the flat metal sheet layer in a forming tool cavity such that the flat metal sheet layer assumes the curved dimensions of the forming tool cavity.

As the addition of Baumeister does not remedy the shortcomings of Seeliger et al. and Rashid et al., the §103 rejection is improper. Reconsideration and removal of the claim rejections are respectfully requested.

RESPONSE TO ADVISORY ACTION PARAGRAPH 11

The Office asserts that Applicants' disclosure regarding flat sheets is "well within the purview of the skilled practitioner" and that the Office is unclear as to how the adaptations "would be outside the purview of the skilled artisan when addressing to the teachings of Seeliger." Advisory Action at Paragraph 11. Applicants respectfully disagree with and traverse this assertion by the Office.

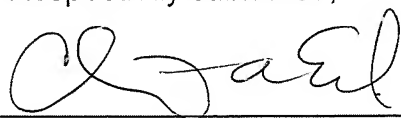
As stated above, the elements which are outside of the purview of the skilled artisan with respect to Seeliger include more than just the use of flat sheets. Seeliger discloses a two-mold process requiring that the semi-finished molded product has its final contour prior to foaming. The use of flat sheets with Seeliger is outside of the purview of the skilled practitioner because the skilled practitioner would be deterred by the chance of failure in light of the sensitive nature of foaming and superplastic deformation and by the teachings of Seeliger which mandate a single mold for both the foaming and the forming.

As Applicants provide the forming and the foaming in a single tool forming cavity with less restrictions on the timing and placement of the pre-foam substrate as compared to Seeliger, Applicants assert that one skilled in the art would not be equipped to modify the teachings of Seeliger and arrive at Applicant's claimed invention as amended.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

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Respectfully submitted,
By: 
Christopher A. Eusebi
Reg. No. 44,672

Stephanie D. Jones
Reg. No. 62,038

CORRESPONDENCE ADDRESS:
HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

CAE/SDJ/tp